



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

REVIEWS.

The Iron-Bearing Rocks of the Mesabi Range in Minnesota. By J. EDWARD SPURR. Bull. No. X. of the Geol. and Nat. Hist. Surv. of Minn. Minneapolis, 1894, pp. 259, 10 plates and figures in the text.

While this volume presents nothing new in general results, it is an interesting expansion of the summary given in the *American Geologist* for May, 1894, and forms a valuable supplement to Bull. No. VI. on the Iron Ores of Minnesota, and *the Mesabi Iron Range* by H. V. Winchell in the 20th An. Rep. of the Geol. and Nat. Hist. Surv. of Minn.

Part of the bulletin is devoted to a detailed description of the stratigraphy and the megascopic and microscopic study of the different classes of rocks which serve as a basis for several chapters of more general scientific interest in which such questions as the Process of Metasomatism; Metamorphic Agents; Prismatic Jointing; Slaty Cleavage; Banding and Bedding; the Origin of the Iron-Bearing Rock; and the Formation and Structure of Ore Deposits are discussed.

Mr. Spurr makes the following classification of the iron-bearing rocks:

1. The normal class including (*a*) the primary spotted-granular rocks, (*b*) the ferruginous spotted-granular rocks, (*c*) the siliceous spotted-granular rocks.
2. The oxidation and concentration class, including (*a*) the leached rocks and (*b*) the ferrated rocks.
3. The shearing class including (*a*) the magnetite-hematite slates, (*b*) the chlorite actinolite slates, (*c*) the silica slates.
4. The impregnation class.
5. The shearing impregnation class.

As the underlying and overlying rocks show very little metamorphism, the writer concludes that the metamorphic agents could not have been heat or mechanical disturbance, but were oxygen, alkalies, and acids carried in by the surface waters.

After discussing the eruptive origin and theory of chemical deposit which have been advanced to explain the occurrence of these ores, the writer argues that they are formed from beds of glauconite, and gives a rather lengthy discussion of the occurrence, structural features, and decomposition products of glauconite. He sums up his conclusions as follows :

1. At the beginning the rock was probably of sedimentary nature, consisting mainly of glauconitic grains with probably some associated calcareous and siliceous matter.
2. The elevation of the beds exposed them to atmospheric agencies which decomposed the glauconite into silica and iron oxide.
3. The various stages of decomposition and certain reconstructive processes have produced the present phases of the iron-bearing rock.
4. The iron is concentrated in the regions of greatest oxidation ; the silica in the regions of least oxidation.

T. C. HOPKINS.

The Mineral Industry, its Statistics, Technology, and Trade in the United States and Other Countries, from the Earliest Times to the end of 1893. Annual. Vol. II., pp. 894 + XL., and six plates. Price \$5. R. P. Rothwell, Editor, Scientific Publishing Co., N. Y.

Volume II. of the Mineral Industry, while following the general plan of the first volume, covers several new topics and discusses some of them at greater length, so that there is increase in size of more than a third over the first volume. The fact that but little of the first volume is repeated in the second, makes both necessary to those interested in the mineral industry from either a commercial or scientific standpoint. To the economic geologist they are indispensable.

"Its statistics, technology, and trade" describes the aim of the work, but these terms hardly stand in the order of their relative importance as treated in the volume. As it takes the place of the annual statistical number of the *Engineering and Mining Journal*, it is probable that statistics was the primary object in the mind of the editor. But in the two volumes published the statistical feature is overshadowed by the others ; this, however, is not to be regretted, as, instead of being merely reference tables of production, they form convenient handbooks to which the scientist as well as the tradesman